

#7 p. 614

7 points

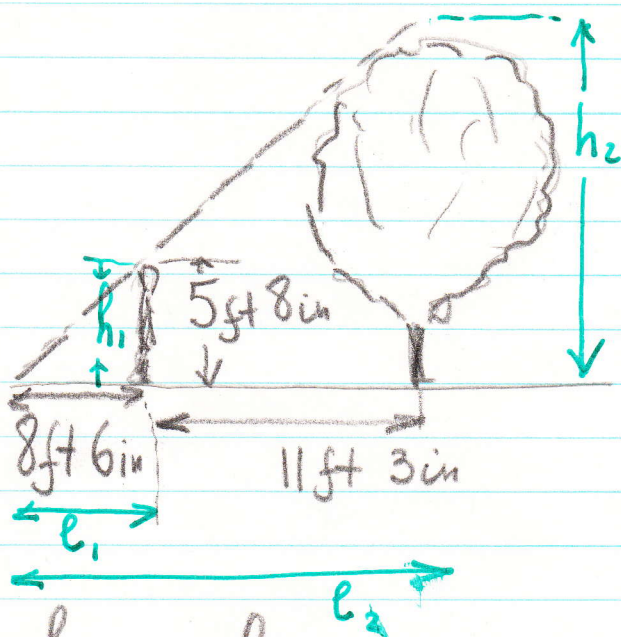
GIVEN:

$$l_1 = 8\text{ ft } 6\text{ in} = 102\text{ in}$$

$$l_2 = 102\text{ in} + 11\text{ ft } 3\text{ in} = 237\text{ in}$$

$$h_1 = 5\text{ ft } 8\text{ in} = 68\text{ in}$$

$$h_2 = ?$$

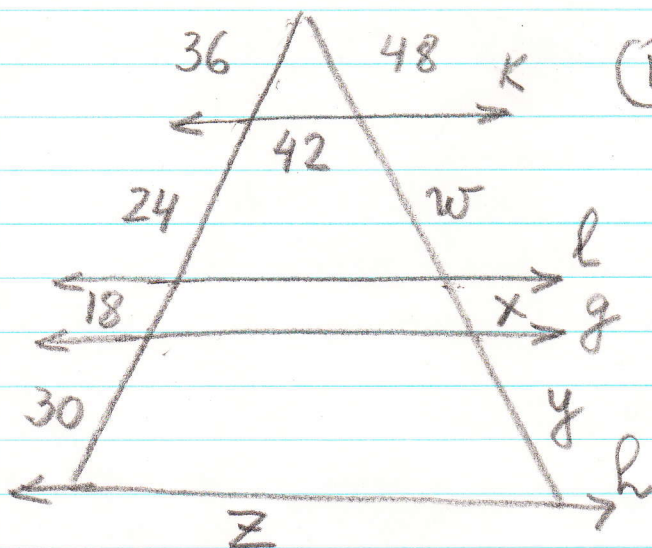


$$\frac{l_1}{h_1} = \frac{l_2}{h_2}$$

$$\frac{102}{68} = \frac{237}{h_2}$$

$$102 h_2 = 68 \cdot 237; \quad h_2 = \frac{68 \cdot 237}{102}$$

$$= 158\text{ in} = \underline{13\text{ ft } 2\text{ in}}$$



$$\textcircled{1} \frac{36}{36+24} = \frac{48}{48+w}$$

$$\frac{36}{60} = \frac{48}{48+w}$$

$$36 \cdot 48 + 36w = 60 \cdot 48$$

$$36w = 60 \cdot 48 - 36 \cdot 48$$

$$w = \frac{24 \cdot 48}{36} = \underline{\underline{32}}$$

$$\textcircled{2} l = 36 + 24 + 18 + 30 = 108$$

$$\frac{z}{l} = \frac{42}{36} ; 36z = 42 \cdot 108$$

$$z = \frac{108 \cdot 42}{36} = 126 ; \boxed{z = 126}$$

$$\textcircled{3} \frac{36}{78} = \frac{48}{80+x} ; 36 \cdot (80+x) = 78 \cdot 48$$

$$36 \cdot 80 + 36x = 78 \cdot 48 ; x = \frac{78 \cdot 48 - 36 \cdot 80}{36} = \frac{3744 - 2880}{36} = \underline{\underline{24}} ; \boxed{x = 24}$$

$$\textcircled{4} \frac{36}{108} = \frac{48}{104+y} ; 36(104+y) = 48 \cdot 108$$

$$36 \cdot 104 + 36y = 5184 ; y = \frac{5184 - 3744}{36} = \underline{\underline{40}} ; \boxed{y = 36}$$